REMARKS UNDER 37 CFR § 1.116

Formal Matters

Claims 1, 5-7, 10-13 and 41-55 are pending after entry of the amendments set forth herein.

Claims 1, 5-7, 10-13 and 41-49 were examined. Claims 1, 5-7, 10-13 and 41-49 were rejected.

Applicants respectfully request reconsideration of the application in view of the amendments and remarks made herein.

No new matter has been added.

The Office Action

Claims Rejected Under 35 U.S.C. Section 112, First Paragraph

In the Official Action of January 27, 2006, claims 1, 5-7, 10-13 and 41-49 were rejected under 35 U.S.C. Section 112, first paragraph as failing to comply with the written description requirement. The Examiner asserted that claim 1 recited a method comprising both obtaining signal data from an array and consequently reading or processing signal data for a sub-array, and that such combination does not have support in the specification, claims or drawings, as originally filed. Although Applicants do not agree with this assessment and consequently do not acquiesce to this ground of rejection, nevertheless, Applicants have amended claim 1 above in order to advance the prosecution of this application. Claim 1 has been amended above to delete the recitation of obtaining signal data from probes on a chemical array comprising a plurality of probe at locations on the chemical array. In view of this amendment, it is respectfully submitted that claim 1 as amended, is clearly supported by the specification, claims and drawings, as originally filed.

Claim 1 has been further amended to recite that different instructions for reading or processing signal data form the chemical array, corresponding to different test requests, are stored in the claimed memory. One location of support for this additional language can be found in the specification at page 18, lines 1-3.

In view of the above remarks and the amendments to claim 1, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1, 5-7, 10-13 and 41-49 under 35 U.S.C.

Section 112, first paragraph, as failing to comply with the written description requirement, as being

moot.

Claims Rejected Under 35 U.S.C. Section 112, Second Paragraph

Claims 1, 5-7, 10-13 and 41-49 were rejected under 35 U.S.C. Section 112, second paragraph, as being indefinite. With regard to claim 1, the Examiner asserted that the relationship between the first step and the rest of the steps was not clear. Applicants respectfully submit that this is no longer an issue, as the "obtaining" step has been deleted from claim 1 above.

With regard to claim 6, the Examiner indicated that it was not clear whether the recitation in claim 6 requires processing off signal data acquired from the sub-array of claim 1. In response thereto, claim 6 has been amended above to clearly recite that processing signal data from a sub-array of the chemical array is required.

Claim 7 was rejected as being dependent upon claim 6. It is respectfully submitted that the rejection of claim 7 has therefore been overcome by the amendment of claim 6 and remarks made above.

Claim 12 has been amended to clarify that the signal data is transmitted only from those feature locations within the received sub-array pattern, as applied to the chemical array.

Claims 42 and 44 have been amended to delete recitation of "the system" and "said system", respectively.

In view of the above amendments and remarks, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1, 5-7, 10-13 and 41-49 under 35 U.S.C. Section 112, second paragraph as being indefinite, as being no longer appropriate.

Claims Rejected Under 35 U.S.C. Section 103(a) (Cattell in view of Venkatesan)

Claims 1, 5-7, 10-13 and 41-48 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over Cattell, U.S. Patent No. 6,180,351, in view of Venkatesan, U.S. Patent No. 6,282,550. The Examiner asserted that Cattell discloses a method for fabricating, reading and processing an addressable chemical array, and that Cattell discloses processing/reading signal data from a sub-array as indicated on Figs. 1-3 and column 7, lines 35-65. Applicants respectfully disagree. Fig. 1 of Cattell illustrates a substrate carrying multiple arrays and a local identifier associated with each. Fig. 2 is an enlarged view of a portion of Fig. 1 showing multiple spots of one array. Fig. 3 is an enlarged

illustration of a portion of the substrate of Fig. 1. Column 7, lines 35-65 of Cattell discloses that a planar substrate may carry one or more arrays 12 disposed across a first surface, and that each array typically includes multiple features. There is no discussion or showing whatsoever of sub-arrays in any of Figs. 1-3 and column 7, lines 35-65 of Cattell.

Referring to column 12, lines 18-26, the Examiner further asserted that Cattell discloses that an array may contain multiple features (sub-arrays) which may be read/processed separately. Applicants respectfully disagree. Column 12, lines 18-26 does not disclose sub-arrays. Column 12, lines 18-26 indicate that the layout information of the array could indicate that the scanner need not interrogate specific array addresses for a given test. However, the array layout information is fixed during the fabrication of the array and associated with a unique identifier and a local identifier, see column 10, line 45 – column 11, line 24. After exposing a sample to the array, upon reading the array, the reading station reads the local identifier to obtain the linked array layout information. Thus, there can only be one set of features from which signals can be read from an array, since the reading pattern is fixed by the array layout information, which is fixed with respect to the array, and from which the test (only one) is determined by the associated unique identifier of the array that is linked to the array layout information. In contrast, the present invention allows different instructions to be retrieved for reading or processing from the same array, and therefore multiple different tests (which may use different sub-arrays) may be selected for the same array, having the same unique identifier, with the only difference being the test request that is submitted. Claim 1 has been amended to recite that different instructions for reading or processing signal data from the same array are stored in the memory and correspond to different test requests that may be provided. It is respectfully submitted that Cattell neither teaches nor suggests this arrangement, nor does Venkatesan.

The Examiner asserted that layout information (instruction) is retrieved from a memory wherein each sub-array location is accompanied by a unique identifier. Applicants respectfully disagree. Column 12, lines 1-6 indicate that the array is shown by reference numeral 12. Referring to Fig. 1, reference numeral 12 shows what the Examiner appears to be referring to as a "sub-array" However, this is not a sub-array, but an array, and array 12 is what is inserted into the scanner to be interrogated, not the entire slide containing all of the arrays 12. There are not multiple array layouts for each array 12, but only one for each. Thus, upon reading the local identifier for an array 12, there can be only one instruction that is retrieved. Although some features may be instructed not be read, this is invariate and is fixed with regard to the layout information for that array 12.

With regard to claim 5, the Examiner admitted that Cattell does not disclose repeating the

providing, retrieving and reading or processing steps. However, the Examiner asserted that Venkatesan discloses a second user selection of a product based on the first product data provided to the user. The Examiner concluded that it would have been obvious to repeat the process of Cattell (i.e., inserting the array into the scanner, identifying its local identifier, associating the local identifier with the array layout information for the array, and interrogating the array based on the array layout information) to sell a product after a series of modifications conducted on-line, as taught by Venkatesan, "to provide efficient and less time consuming process of buying a biological product to customers." Applicants respectfully disagree.

Venkatesan is directed to obtaining customer orders for custom-designed biochips. Accordingly, Venkatesan is directed to fabrication of biochips and would suggest nothing about providing test requests for reading signals from a chemical array. There is no suggestion provided by Venkatesan which would lead one of ordinary skill in the art to repeat the process of Cattell as described in column 12, and referred to by the Examiner. Even if there were some suggestion, which there clearly is not, repetition of the steps described by Cattell would result in reading the same features of the array each time, as this is dictated by the local identifier and the array layout information which are invariably fixed to the array being read.

Since all remaining claims depend from claim 1, it is respectfully submitted that these claims are also allowable, for at least the same reasons provided with regard to claim 1 above.

Accordingly, in view of the above amendments and remarks, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1, 5-7, 10-13 and 41-48 under 35 U.S.C. Section 103(a) as being unpatentable over Cattell, U.S. Patent No. 6,180,351 in view of Venkatesan, U.S. Patent No. 6,282,550, as being inappropriate.

Claim Rejected Under 35 U.S.C. Section 103(a) (Cattell in view of Venkatesan and Anderson)

Claim 49 was rejected under 35 U.S.C. Section 103(a) as being unpatentable over Cattell, U.S. Patent No. 6,180,351, in view of Venkatesan, U.S. Patent No. 6,282,550, as applied to claims 1, 5-7, 10-13 and 41-48 above, and further in view of Anderson, WO 01/80155. The Examiner asserted that Anderson discloses a method for custom-designed biological array design and analysis wherein target molecules are labeled and an iterative procedure for designing an array. The Examiner further asserted that Anderson discloses sub-array reading and processing, and that it would have been obvious to modify the method of Cattell and Venkatesan to use labeled target, as though by Anderson, to detect

signals generated by hybridization between primers and a target.

Applicants respectfully disagree. The method of Anderson allows a customer to design a biochip array by specifying the sequence content motif ("oligonucleotide sequences, polypeptide sequences, receptor binding sequences, or antigens to be bound [to the biochip]" – see page 4, lines 27-29) to be placed on the array. The sequence content motif is sequence data for **the entire array.** A computer that is remote from the customer then sends the sequence content motif to an automated array fabrication unit. After making the array, the customer exposes the array to test samples. An assay of the array is performed by the customer, using an assay instrument provided by the makers of the system. The assay data are sent to the computer remote from the user, where they are compared to the sequence content motif that was used to make the array. The processed data may then be sent to the customer's computer. Anderson discloses only comparing the assay data with the sequence motif that was constructed according to the customers order for the production of the **entire** array from which the assay data has been generated. Thus, like Cattell and Venkatesan, Anderson does not retrieve an instruction from a plurality of instructions stored in a memory, wherein different instruction for reading or processing signal data from the chemical array, corresponding to different test requests, are stored in the memory, and where each instruction is retrievable with a different test request.

Accordingly, in view of the above amendments and remarks, the Examiner is respectfully requested to reconsider and withdraw the rejection of claim 49 under 35 U.S.C. Section 103(a) as being unpatentable over Cattell, U.S. Patent No. 6,180,351, in view of Venkatesan, U.S. Patent No. 6,282,550, as applied to claims 1, 5-7, 10-13 and 41-48 above, and further in view of Anderson, WO 01/80155, as being inappropriate.

New Claims

Newly submitted claims 50-55 each depend, ultimately, from claim 1 and therefore it is respectfully submitted that these claims are also allowable over the art of record, for at least the same reasons provided above with regard to claim 1.

Further, claim 50 recites providing a unique array identifier for the chemical array with said test request, wherein said different instructions for reading or processing signal data from the chemical array are each linked with a different test request and are all linked to the unique array identifier. One example of a location of support for this claim in the specification, as originally filed, can be found at page 18, lines 1-6. As noted above, Cattell discloses a different identifier for each array 12, and only a

single instance of array layout information is associated with each identifier. Venkatesan and Anderson provide nor disclosures or teachings that would rectify this deficiency.

Claim 51 recites that said reading or processing are carried out at a first location, said test request is transmitted to a second location remote from said first location, and the instruction is retrieved at said second location and transmitted to said first location. Support for this claim can be found at page 11, lines 5-13 and Fig. 6.

Claim 52 recites that signal data from the chemical array and said test request are transmitted from a first location to a second location remote from said first location, and wherein said reading or processing the signal data comprises processing the signal data at said second location. Support for this claim can be found at page 18, lines 17-25 and Fig. 6.

Claim 53 depends from claim 43, and recites that said reading or processing are carried out at a first location, and said test request and account information are transmitted to a second location remote from said first location. Support for this claim can be found at page 13, lines 30-32 and Fig 6.

Claim 54 depends from 43, and recites that signal data from the chemical array and said test request and account information are transmitted from a first location to a second location remote from said first location, and wherein said reading or processing the signal data comprises processing the signal data at said second location. Support for this claim can be found at Fig 6.

Claim 55 depends from claim 1 and recites that said test request is transmitted form a first location to a second location remote from said first location, said method further comprising transmitting a quoted price for the test requested, from said second location to said first location. Support for this claim can be found at page 13, lines 27-30 and Fig. 6.
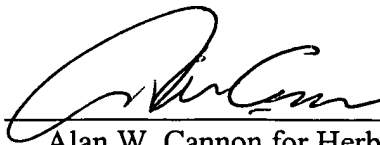
Conclusion

Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-1078, order number 10021295-1.

Respectfully submitted,

LAW OFFICE OF ALAN W. CANNON

Date: _3/7/2006_

By: _____
Alan W. Cannon for Herbert Schulze
Registration No. 34,977

Herbert Schulze
Agilent Technologies, Inc.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599
Telephone: (650) 485-4377
Facsimile: (650) 485-5487